

Remarks

A. Status of the Claims

Claims 1, 7, 9, 15, and 17 are revised. Non limiting support for the revisions to claims 1 and 9 can be found in original claims 6 and 14, respectively. Claims 7 and 15 are revised to change their dependencies from cancelled claims 6 and 14 to claims 1 and 9, respectively. Non-limiting support for the revisions to claim 17 can be found throughout the specification (*see, e.g.*, page 3, lines 10-16; page 9, lines 6-13 and 25-28; original claim 17).

Claims 4, 6, 8, 14, and 16 are cancelled.

Claims 20-27 are added. Non-limiting support for the new claims can be found throughout the specification (*see, e.g.*, page 8, lines 1-9; page 9, lines 5-17; original claims 6-7, 14-15, and 17).

Therefore, claims 1-3, 5, 7, 9-13, 15, and 17-27 are pending.

B. The Obviousness Rejection Is Overcome

1. Summary of the Examiner's Position

Claims 1-19 are rejected under 35 U.S.C. § 103(a) as allegedly being obvious over U.S. Patent 7,318,960 ("Yamamoto") in view of U.S. Patent 6,887,401 ("Keita"). The Examiner takes the position that Yamamoto discloses every element of the claimed invention but for the claimed "mixture of polythiourethanes in the adhesive." Action at page 2. Keita is relied upon to supplement Yamamoto's deficiency.

Applicant respectfully disagrees and provides the following comments in support of its position.

2. Scope and Content of the Cited Art

Yamamoto describes a polarizing film (made of polyvinyl alcohol, abbreviated as PVA) coated on each of its two faces by a protection sheet, which adheres by means of an adhesive (col. 5, L. 13-20). According to the examples, it seems that these protection sheets are not withdrawn before deposition of a subsequent layer on the polarizing film.

Polythiourethanes (abbreviated as PTU) are quoted in a list of adhesives that can be used (col. 5, L. 22-23). This polarizing film is used for the preparation of a polarizing molded article.

Keita discloses molding a PTU substrate from PTU pre-polymers having NCO and SH end-groups. There is no suggestion to prepare a polarized article.

3. Differences from the Cited Art and the Claimed Invention Are Not Obvious Differences

Both of the cited references fail to contemplate an In Mold Coating (IMC) type process such as those claimed in claims 1 and 9. Indeed, Yamamoto fails to mention or suggest a molding process.

Further, claims 1 and 9 have been revised to recite that the “polarized polyvinyl alcohol film has been dried at a temperature ranging from 25°C to 100°C before pouring the polymerizable composition in the molding cavity.” *See also* new claims 20-21, wherein the temperature range is from 45°C to 100°C. The examples in Applicant’s specification and comparative example 1 demonstrate the criticality of such a drying step. Applicant’s claimed processes provide bubble-free polarized articles without degrading their optical properties, in particular their polarizing properties (page 9, lines 17-21, tables 1 and 2). Comparative example 1 confirms that when the initial drying step of the PVA film is suppressed, the final polarizing article cannot be used due to the presence of bubbles (table 1).

By comparison, neither Yamamoto nor Keita mention or suggest performing such a drying step in the hope of some improvement or advantage, much less when implementing an IMC-type process or prior to “pouring the polymerizable composition in the molding cavity” as claimed by Applicant. Without wishing to be bound by theory, Applicant believes that the optical defects due to the presence of bubbles that are observed during polymerization in the comparative experiments (see table 1) are caused by the presence of water in the PVA film. Said water is sufficiently eliminated when the claimed drying step is performed.

Even under *KSR*, there still must be a reason to combine or modify references to reach a conclusion of obviousness. Applicant respectfully submits that none exists in the context of how the drying step is claimed in claims 1 and 9.

Applicant requests that the obviousness rejection be withdrawn for at least the above-stated reasons.

4. Additional Arguments for Claim 17

Yamamoto describes a polarizing film coated on each of its two faces by a protection sheet. According to the examples, it seems that these protection sheets are not withdrawn before deposition of a subsequent layer.

By comparison, claim 17 concerns a “polarized article comprising a polythiourethane substrate and **a naked polarized polyvinyl alcohol film directly adhering to said polythiourethane substrate....**” Nothing in Yamamoto suggests such a structure; rather, and as noted in the above paragraph, there appears to be at least a “protection sheet” between the polarizing film and the corresponding substrate. Stated another way, Yamamoto fails to disclose or suggest that its adhesive (PSA) made of PTU was polymerized from precursors that were in direct contact with the PVA film.

Also, the polarized article in claim 17 comprises a PTU substrate. Yamamoto fails to describe or suggest such a substrate. Indeed, the sole element in Yamamoto that can be made of PTU is the adhesive layer and not the actual substrate.

It is also quite surprising and unexpected to obtain a polarizing film directly adhering to a PTU substrate without using an adhesive layer. Applicant's specification provides the following explanation on this point:

It is surprising that (...) one can obtain very good adhesion between a naked polyvinyl alcohol film and a polythiourethane polymer (e.g., one of the present polymerizable compositions) without any primer coating or adhesive coating.

Specification at page 9, lines 25-28. Further evidence of this surprising and unexpected phenomenon is illustrated by Yamamoto, which utilizes an adhesive to ensure sufficient adhesion between its polarizing plate-containing laminated structure and its polyurethane sheet layer (col. 1, lines 60-67).

Nothing in Yamamoto nor Keita appear to suggest modifying the Yamamoto article to correspond to Applicant's claim 17 article. That is, the structural differences between Applicant's claim 17 article and the Yamamoto article are non-obvious differences.

Applicant requests that the obviousness rejection be withdrawn for at least the above-stated reasons.

C. Conclusion

Applicant believes that this is a complete response to the current office action and that this case is in a condition for allowance. Should the Examiner have any questions, comments, or suggestions relating to this case, the Examiner is invited to contact Applicant's representative at (512) 536-3020.

Respectfully submitted,



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